REMARKS

The subject application was filed with 25 claims, consisting of independent claim 1, directed to a drumhead, with associated dependent claims 2-9; independent claim 10 also directed to a drumhead, with associated dependent claims 11-16; and independent claim 17 directed to a tone control device, with associated dependent claims 18-25.

Applicant understands from the detailed action beginning on numbered page 2, that claims 1-16 stand rejected under 35 USC 103 as being unpatentable over the disclosures of U.S. 6,365,812 (McGill), in view of U.S. 6,518,490 (Good). According to numbered paragraph 3, claims 17-25 have been allowed. Accordingly, applicant will only address the rejection of claims 1-16.

Claims 1-16 are directed to a drumhead having an annular formation of plastic film intimately adhered to the drumhead membrane and having a plurality of relief irregularities with the annular formation entirely located in the radially outward most fifty percent of the crown surface of the membrane, preferably the outer thirty percent. The preferred embodiment defined in independent claim 10 requires that the plastic film is adhered to the membrane by a layer of adhesive, the relief irregularities include removal of radial or circumferencial portions of the film and adhesive and the plastic film is positioned in a radially outward-most thirty percent of the membrane.

The examiner asserts that McGill discloses a membrane wherein the adhered annular formation is entirely in the radially outward most forty percent of the crown (column 4, lines 1-15). Applicant strongly disagrees. This paragraph referenced by the examiner does not in any manner disclose that the crown of the drumhead should be only partially covered by the adhering film, let alone that only the outermost fifty-percent, or thirty-percent, should be covered. Moreover, the invention of interest to McGill, is the method of preparing a drumhead membrane in the nature of a laminate comprising upper and lower sheets of polymeric film and at least two oriented fiber layers positioned between the sheets. To the extent any numerical limitations are relevant, they pertain to the angle of intersection of the oriented fiber layers, and not to the

proportion of the drumhead covered by the material. The patent does include claims directed to a drumhead, but the quantitative limitations pertain to thickness, denier weight and angle of intersection of the oriented fibers.

Applicant believes that this reference is entirely inapplicable to the claimed invention, inasmuch as claim 1 is unambiguous in requiring that the plastic film that is intimately adhered to the membrane, has a plurality of relief of irregularities, and must be entirely located in the radially outwardly most fifty percent of the crown. Similarly, in claim 10, the annular formation must have radial or circumferencal relief and be positioned in a radially outward most thirty percent of the drumhead membrane. There is simply nothing in McGill that would disclose, teach or suggest a plastic film situated only in such an outermost portion of a durmhead. Accordingly, there is no basis on which one of ordinary skill in this field of endeavor would see reason to make any connection between Good and McGill. McGill does indeed disclose differential material at the surface of the drumhead, but the material is a coating 60 extending on the membrane over its mid region (see column 2, lines 53-58).

In particular, in Figure 1 the quantification of the dimensions L1 and L2 indicate that the coating extends outwardly to 60 percent of the crown radius, whereas the bare membrane is exposed for the outward 40 percent of the membrane crown radius. (See column 3 beginning at line 1).

The embodiment of Figure 5 is described beginning in column 3 at line 24, primarily for the purpose of providing different coating thickness' where the musician intends to strike the drumhead.

The location of the coating, the size of the footprint of the coating, and the inclusion of abrasive material therein, all point to the criticality of providing the coating in the central portion of the drumhead, where the coated surfaces will either be struck, or will have an immediate attenuating effect adjacent to the area where the drumhead is struck.

Upon further consideration of the cited Good reference, it was noted that U.S. Patent No. 5,920,021 was cited in the Background thereof. The '021 patent discloses a sound attenuating drumhead that comprises a support ring, a synthetic membrane

carried by the ring, and a thin coating extending annularly in the outer region of the membrane, acting to attenuate vibrations on the head when struck. As with the cited Good reference, said coating consists of epoxy resin and abrasive filler particles, with the resin directly bonded to the membrane. The coating has a thickness of 3 to 3.2 mm. The embodiment illustrated in Figure 5 shows the coating extending in segments spaced apart about the center of the drumhead. Nevertheless, applicant's claims patentably distinguish over the '021 patent as well.

In order to emphasize one difference, claim 1 has been amended to require that the adhesion be via an adhesive, as distinct from the film. In claim 2, "unitary" now modifies "formation". This is supported, for example, in the first full paragraph on page 10, with reference to Figure 1 in that the total device is in the shape of a ring that has four circumferencially elongated arcuate slots surrounded by sheet material connected by web portions. Furthermore, claim 2 have been amended consistent with Figure 2 and the description on page 7 line 14, to the effect that the formation is adhered to the underside of the membrane. This also differentiates from the '021 patent.

Claim 5 further differentiates in requiring that the formation is attached to the membrane, by a viscoelastic adhesive. In Good, the tone control feature is a coating of expoy and abrasive particles, which cannot reasonably teach one to employ a viscoelastic adhesive for securing the plastic film tone control formation to the membrane. Claim 6 has been amended to depend from claim 5 instead of claim 4, to correct a typographical error. The dimensions specified in claim 6 are very different from formation dimensions that can be derived from the '021 patent. Whereas the coating thickness in the '021 patent is specified as in the range of 3.0 to 3.2 mm (about 120-130 mil) the dimensions according to claim 6 are 3 to 5 mil for the tone control film and 0.5 to 3 mil for the adhesive, which is at least an order of magnitude less than the coating according to the '021 patent.

Further, claim 7 requires that the membrane and the formation be of the same plastic material. Claim 9 requires that the adhesive is an acrylic pressure sensitive adhesive. The amendments to claims 8 and 9 merely change dependency, in the same manner as correcting the initial typographical error with respect to claim 6.

The detailed features of the dependent claims are not merely incidental attributes. The use of a thin film for the tone control formation, of the same material of the membrane, adhered thereto by a thin viscoelastic yet aggressive adhesive, all contribute to the overall purpose of affording some degree of dampening, without significantly affecting the quality of the projected vibration. This is preferably achieved by employing a similarity of materials which are joined in a way that enables the formation to vibrate essential in sympathy with the membrane while providing a dampening effect. This dampening effect is achieved by having the irregularities near the outer rim of the drum shell as shown in Figure 2, where the reflected vibrations can be damped. (see page 7, lines 14-18 and page 10 lines 12-25. None of the Good references takes these important factors into account.

As a further significance to the nature of the adhesive, applicant refers to Figures 5 and 6, which depict how multiple tone control devices can be cut in a precise dye with one pass, thereby producing rings of different diameter suitable for use in drums of respective different diameter. The viscoelasticity of the adhesive accommodates the precise cutting of the dye without distortion and without the adhesive separating, which could produce non-uniformities and buzzing in locations where the adhesive may have separated from the formation. This is described in the paragraph beginning on page 9, line 21.

Original independent claim 10 is likewise patentable relative to all reference of record. Claim 10 requires that the annular formation be adhered to a surface of the membrane by a layer of adhesive which is not taught or suggested by either of the Good references. Furthermore, the dependent claims recite preferred features that were discussed with respect to the claims dependent from independent claim 1.

Applicant requests that the examiner indicates consideration of the documents listed in the Information Disclosure Statement that accompanied the application as filed.

For the foregoing reasons, applicant believes that all claims are allowable and requests that a Notice of Allowance be issued.

Respectfully submitted,
Robert A. Gatzen and
Donald Dressler

By: _____
L. James Ristas
Registration No. 28,663
Alix, Yale & Ristas LLP
Attorney for Applicant

Date: December 20, 2005
750 Main Street
Hartford, Connecticut 06103-2721
(860) 527-9211
Our Ref: DADD/131/US

LJR/ds

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